

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-98 (Canceled).

Claim 99 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times$$

(impulsiveness value) + E, where

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \text{Ln}(\text{ppm}) - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 100 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \text{Ln}(\text{ppm}) - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 101 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance:

$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times$
(impulsiveness value) + E, where

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \text{Ln (ppm)} - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 102 (New): A method of image formation apparatus comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance:

$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times$
(impulsiveness value) + E, where

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \text{Ln (ppm)} - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 103 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and roughness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the roughness value satisfies the condition of not larger than 2.20 (asper), and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \ln (\text{ppm}) - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 104 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and roughness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the roughness value satisfies the condition of not larger than 2.20 (asper), and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \ln (\text{ppm}) - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 105 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and roughness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the roughness value satisfies the condition of not larger than 2.20 (asper), and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \text{Ln (ppm)} - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 106 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and relative approach value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the relative approach value satisfies the condition of not larger than 2.21, and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \text{Ln}(\text{ppm}) - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

107 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value,

tonality value, impulsiveness value, and relative approach value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the relative approach value satisfies the condition of not larger than 2.21, and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \text{Ln}(\text{ppm}) - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 108 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and relative approach value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image

formation apparatus by a predetermined distance, the relative approach value satisfies the condition of not larger than 2.21, and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$0.209 \leq A \leq 0.249$$

$$0.308 \leq B \leq 0.439$$

$$3.669 \leq C \leq 4.984$$

$$0.994 \leq D \leq 1.461$$

$$-4.280 \leq E \leq -3.274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \text{Ln}(\text{ppm}) - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 109 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and relative approach value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the relative approach value satisfies the condition of not larger than 2.21, and a discomfort index S of sound obtained by the

following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.6708 \times \text{Ln (ppm)} - 2.824$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 110 (New): A method of image formation comprising:

forming an image on a recording medium so that, of loudness value, sharpness value, tonality value, impulsiveness value, and relative approach value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, the relative approach value satisfies the condition of not larger than 2.21, and a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using

regression coefficients of loudness value, sharpness value, tonality value, and impulsiveness value:

$$S = A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + E, \text{ where}$$

$$A = +0.229$$

$$B = +0.373$$

$$C = +4.327$$

$$D = +1.202$$

$$E = -3.767 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5436 \times \text{Ln (ppm)} - 2.5795$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 111 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of sound pressure level, loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, and ppm value:

$$S = G \times (\text{sound pressure level}) + A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + F \times (\text{ppm value}) + E, \text{ where}$$

$$0.0442 \leq G \leq 0.0830$$

$$0.0678 \leq A \leq 0.1677$$

$$0.3629 \leq B \leq 0.5084$$

$$2.5473 \leq C \leq 4.0677$$

$$-0.0533 \leq D \leq 0.3279$$

$$-0.0058 \leq F \leq 0.0006$$

$$-3.7769 \leq E \leq 7.6274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5432 \times \text{Ln (ppm)} - 2.3398$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 112 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of sound pressure level, loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, and ppm value:

$$S = G \times (\text{sound pressure level}) + A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + F \times (\text{ppm value}) + E, \text{ where}$$

$$0.0442 \leq G \leq 0.0830$$

$$0.0678 \leq A \leq 0.1677$$

$$0.3629 \leq B \leq 0.5084$$

$$2.5473 \leq C \leq 4.0677$$

$$-0.0533 \leq D \leq 0.3279$$

$$-0.0058 \leq F \leq 0.0006$$

$$-3.7769 \leq E \leq 7.6274 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.416 \ln (\text{ppm}) - 2.0952$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

Claim 113 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of sound pressure level, loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, and ppm value:

$$S = G \times (\text{sound pressure level}) + A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + F \times (\text{ppm value}) + E, \text{ where}$$

$$G = +0.0636$$

$$A = +0.1178$$

$$B = +0.4356$$

$$C = +3.3075$$

$$D = +0.1373$$

$$F = -0.0026$$

$$E = -5.7022 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.5432 \times \text{Ln (ppm)} - 2.3398$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and Ln is natural logarithm.

114 (New): A method of image formation comprising:

forming an image on a recording medium so that a discomfort index S of sound obtained by the following tone quality evaluation equation (a) expressed in a regression equation, using regression coefficients of sound pressure level, loudness value, sharpness value, tonality value, and impulsiveness value of psychoacoustic parameters obtained from an operating noise at a position away from an end face of an image formation apparatus by a predetermined distance, and ppm value:

$$S = G \times (\text{sound pressure level}) + A \times (\text{loudness value}) + B \times (\text{sharpness value}) + C \times (\text{tonality value}) + D \times (\text{impulsiveness value}) + F \times (\text{ppm value}) + E, \text{ where}$$

$$G = +0.0636$$

$$A = +0.1178$$

$$B = +0.4356$$

$$C = +3.3075$$

$$D = +0.1373$$

$$F = -0.0026$$

$$E = -5.7022 \quad \dots (a)$$

satisfies the condition of:

$$S \leq 0.416 \ln (\text{ppm}) - 2.0952$$

$$16 \leq \text{ppm} \leq 70, \text{ and}$$

where ppm is defined as the number of sheets of A4 lateral size paper printed in one minute, and \ln is natural logarithm.